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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/083,385 | 02/27/2002 | Satoshi Hirahara | 220049US0 | 4760 |
| 22850 | 7590 | 06/11/2007 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. | | | VO, HAI | |
| 1940 DUKE STREET | | | ART UNIT | PAPER NUMBER |
| ALEXANDRIA, VA 22314 | | | 1771 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 06/11/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/083,385

Applicant(s)

HIRAHARA ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 15, 30, 32, 34, 37-40, 42, 43, 46 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 15, 30, 32, 34, 37-40, 42, 43, 46 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. All of the art rejections are maintained.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7, 15, 30, 32, 34, 37-39, 42 and 43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lisowsky (US 5,858,511). Lisowsky discloses a conductive carbonaceous fiber fabric having a thickness of 0.001 to 0.1 in (column 3, lines 45-50; and column 4, lines 9-11). The fabric comprises a binder in an amount of 5 to 15 wt% (column 4, lines 60-64). The thermoset precursors are dispersed in a solvent (column 4, lines 45-55). Likewise, the thermoset precursors are present as fine particles in the dispersion solution. The coating is applied by spraying (column 4, lines 35-37). Since Lisowsky uses the same binders (thermosetting resins) and the same techniques (spraying) to form the coated carbonaceous fiber fabric as Applicants, it is not seen that the binder could not have been present discontinuously as particles

at the point contact between the fibers. Carbonaceous fibers are axially oriented to one another as shown in figure 1. It appears that Lisowsky was using the same materials and the same technique to form the carbonaceous fiber fabric as Applicants. The carbonaceous fiber fabric comprises a binder present in a very small amount to bond the woven fabric materials together at a multiplicity of bonding sites. The binder is applied to the fabric material by spraying and present in an amount within the claimed range. The coated carbonaceous fiber fabric has a thickness within the claimed range. Therefore, it is the examiner's position that a bending resistance, an in-plane volume resistivity, a gas permeability, a degree of fluffing, basis weight would be inherently present as like material has like property. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. It has been held that a recitation with respect to the manner in which a claimed carbonaceous fiber fabric is intended to be employed does not differentiate the claimed carbonaceous fiber fabric from a prior art friction material satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Accordingly, Lisowsky anticipates or strongly suggests the claimed subject matter.

5. Claims 6, 40, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lisowsky (US 5,858,511) as applied to claim 1 above, in view of Winckler (US 5,662,993). Lisowsky discloses a carbon composite material suitable as a friction

material. Lisowsky does not specifically disclose a diameter of the fiber and carbonaceous fibers being twisted yarns. Winckler, however, teaches a carbon composite material suitable as a friction material comprising a woven fabric consisting of carbon based fibers spun into bundles and the bundles twisted into strands. Winckler teaches the fibers having an average fiber of 6 to 12 microns (column 5, lines 55-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the carbonaceous fiber comprising twisted yarns as described by Winckler motivated by the desire to control oil flow while retaining structural integrity and balancing other properties of the friction material (see column 5, lines 50-60 of Winckler).

It appears that the carbon composite article of Lisowsky as modified by Winckler are a woven fabric composed of carbonaceous fibers having an average fiber diameter within the claimed range and the contact points of the fibers are bonded together by a binder resin. Lisowsky was using the same materials and the same technique to form the carbonaceous fiber fabric as Applicants. The carbonaceous fiber fabric comprises a binder present in a very small amount to bond the woven fabric materials together at a multiplicity of bonding sites. The binder is applied to the fabric material by spraying and present in an amount within the claimed range. The coated carbonaceous fiber fabric has a thickness within the claimed range. Therefore, it is the examiner's position that the point contact would be inherently present in the range instantly claimed.

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6. The art rejections based on Lisowsky have been maintained for the following reasons. Applicants argue that Lisowsky fails to teach or suggest carbonaceous fibers having discontinuous particles of a semicured thermosetting resin on the surfaces of the fibers by spraying. It is noted that the final product contains the completely cured thermosetting resin, which is not a semicure thermosetting resin. Lisowsky discloses that the thermoset precursors are dispersed in a solvent (column 4, lines 45-55). Likewise, the thermoset precursors are present as fine particles in the dispersion solution. The dispersion solution can be applied by spraying (column 4, lines 35-37). The binder would be substantially present discontinuously as particles at the point contact between the fibers as the same material and the same technique are employed. Accordingly, the art rejections are sustained.
7. Claims 1-5, 7, 15, 30, 32, 34, 37-40, 42 and 43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fiala et al (US 5,895,716). Fiala discloses a conductive carbonaceous fiber fabric having a thickness of 0.01 to 0.08 in (column 4, lines 20-22). The fabric comprises a binder in an amount of 10 to 30 wt% (column 2, lines 29-30). Since Fiala uses the same binders (thermosetting resins) and the same techniques (spraying) to form the coated carbonaceous fiber fabric as Applicants, it is not seen that the binder could not have been present discontinuously as particles at the point contact between the fibers. Carbonaceous fibers are twisted yarns or axially oriented to one another (column 2, lines 5-10). Carbonaceous fabric has a weight per a unit area within the claimed range (column 4, lines 15-16). The carbonaceous fiber fabric comprises a

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binder present in a very small amount to bond the woven fabric materials together at a multiplicity of bonding sites. The binder is applied to the fabric material by spraying and present in an amount within the claimed range (column 3, lines 20-22). The binder is a fine particle of semicured thermosetting resin (column 4, lines 48-55). Since Fiala was using the same materials and the same technique to form the carbonaceous fiber fabric as Applicants, it is not seen that the binder is not present discontinuously as particles on the surface of the fibers. The coated carbonaceous fiber fabric has a thickness and basis weight within the claimed ranges. Therefore, it is the examiner's position that a bending resistance, an in-plane volume resistivity, a gas permeability, and a degree of fluffing would be inherently present as like material has like property. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. It has been held that a recitation with respect to the manner in which a claimed carbonaceous fiber fabric is intended to be employed does not differentiate the claimed carbonaceous fiber fabric from a prior art friction material satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Accordingly, Fiala anticipates or strongly suggests the claimed subject matter.

8. Claims 6, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiala et al (US 5,895,716) as applied to claim 1 above, in view of Winckler (US

5,662,993). Fiala discloses a carbon composite material suitable as a friction material. Fiala does not specifically disclose a diameter of the carbonaceous fiber. Winckler, however, teaches a carbon composite material suitable as a friction material comprising a woven fabric consisting of carbon based fibers spun into bundles and the bundles twisted into strands. Winckler teaches the fibers having an average fiber of 6 to 12 microns (column 5, lines 55-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the carbonaceous fiber as described by Winckler motivated by the desire to control oil flow while retaining structural integrity and balancing other properties of the friction material (see column 5, lines 50-60 of Winckler).

It appears that the carbon composite article of Fiala as modified by Winckler are a woven fabric composed of carbonaceous fibers having an average fiber diameter within the claimed range and the contact points of the fibers are bonded together by a binder resin. Fiala was using the same materials and the same technique to form the carbonaceous fiber fabric as Applicants. The carbonaceous fiber fabric comprises a binder present in a very small amount to bond the woven fabric materials together at a multiplicity of bonding sites. The binder is applied to the fabric material by spraying and present in an amount within the claimed range. The coated carbonaceous fiber fabric has a thickness and basis weight within the claimed ranges. Therefore, it is the examiner's position that the point contact would be inherently present in the range instantly claimed.

9. The art rejections based on Fiala have been maintained for the following reasons.

Applicants argue that Fiala fails to teach or suggest carbonaceous fibers having discontinuous particles of a thermosetting resin on the surfaces of the fibers. The examiner respectfully disagrees. Fiala discloses that the binder is applied to the fabric material by spraying and present in an amount within the claimed range (column 3, lines 20-22). The binder is a fine particle of semicured thermosetting resin (column 4, lines 48-55). The binder would be substantially present discontinuously as particles at the point contact between the fibers as the same material and the same technique are employed. Accordingly, the art rejections are sustained.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HV

Date: June 2, 2007

/Hai Vo/ Primary Examiner, Art Unit 1771
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